

Ship Wed-12/12

Dart Aerospace Ltd.

50

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SHORT STEP ASSEMBLY
Job Number : 36238	
Estimate Number : 11672	
P.O. Number : NA	Part Number : D350591121 D2351-041
This Issue : 12/10/2007 S.O. No. : N/A	Drawing Number : D2351 UNDER REVIEW
Prsht Rev. : NC	Project Number : N/A
First Issue : NA	Drawing Revision : E
Previous Run : 35863	Material : N/A
Written By : 07.12.10	Due Date : 12/12/2007 Qty: 1 Um: Each
Checked & Approved By : 07.12.10	
Comment : Est Rev: 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF est rev. F 06.02.23 added grinding EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121CHG003

2.0	D2244116	Step Extrusion
-----	----------	----------------



Comment: Qty.: 0.5000 Each(s)/Unit Total : 0.5000 Each(s)

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

0.5 D2244-128 Extrusion

B33733

a.m

07.12.11

(1)

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
-----	-------------	------------------------------



Comment: LARGE FABRICATION RESOURCE 1

54.94"

1-Cut D2244-128 extrusion to **55.32"** long as per Dwg D2351 using cutting table setup DT8185-Ga **m 07.12.11 (1)**

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets. **a.m 07.12.11 (1)**

TURN OVER

3-Deburr

a.m

07.12.11

(1)

4.0	BENDING	BENDING MACHINE
-----	---------	-----------------



Comment: BENDING MACHINE


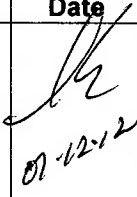
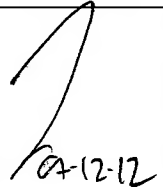
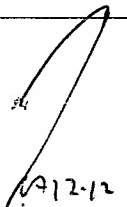
Bend per Dwg D2351 using Bend Program D23561dD FT011

EL 7.12.11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 07/10/13
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07.12.10	3.0	STEP IS TOO LONG WHEN INSTALLED ON AIRCRAFT 	RA per QSI 042 07.12.10	SHORTEN STEP LENGTH BY 0.375" @ 99° CUT LENGTH IS NOW 54.94" (SEE ATTACHED PICTURES)	 07.12.12	 07.12.12	RA per QSI 042 07.12.10	 07.12.12

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36238

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Handwritten: 07-12-12

6.0

D28501

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch
1 D2850-1 End Bracket *329842*

Handwritten: 07-12-12

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod *M105844*

3-Do not Grind Flush

Handwritten: 07-12-12
Handwritten: 07-12-12
Handwritten: 07-12-12

8.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

Handwritten: 07/12/12 (1)

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Handwritten: 12-12 (1)

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Handwritten: 07-12-12

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Handwritten: 12-12 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36238

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2582

Step Leg Assy

333253

12-12-12

13.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

1104715

12-12-12

14.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

12-12-12

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

12-12-12

16.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

332404

17.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod

11105058

2-Grind end cap flush per dwg D2351

12-12-12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36238

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

07/12/12 ①

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-12-12 ①

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

(pressure wash)

07-12-12

(21)

21.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M105914

M-h 07/12/12

(1X)

22.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch:

M106332

M-h 07/12/12

(1X)

23.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

07-12-13 ①

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

N/A skip weldment only N/C

25.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-1 Mounting Lug

u

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36238

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2230-3 Mounting Lug _____

27.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 0.6000 f(s)

Pick:

Packing KitQtyPart Number Description Batch

1 D2856-400 7.20" Abrasion Strip _____

28.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 AN3-37A Bolt _____

29.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

AN4-13A

Batch: _____

30.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

4 AN960JD10 Washer _____

31.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

6 AN960JD416 Washer _____

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/10/2007 12:05:02 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 36238

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

2 MS21042L3 Nut (or -3) _____

33.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

Pick:

Packing KitQtyPart Number Description Batch

3 MS21042L4 Nut (or -4) _____

N/A

34.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-121

Location: _____

PPP Rev: _____

Ci 7/12/13

①

36.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

①
D 07/12/13

Job Completion



u 07/12/13

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

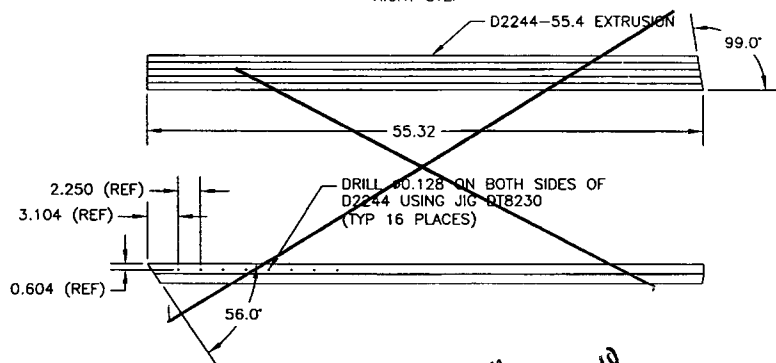
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
N^o 36238

RELEASED
05.11.28 #**UNDER REVIEW**07.11.29 #
PER NO. 263

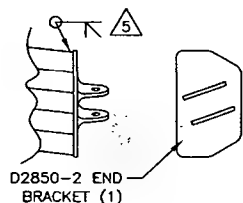
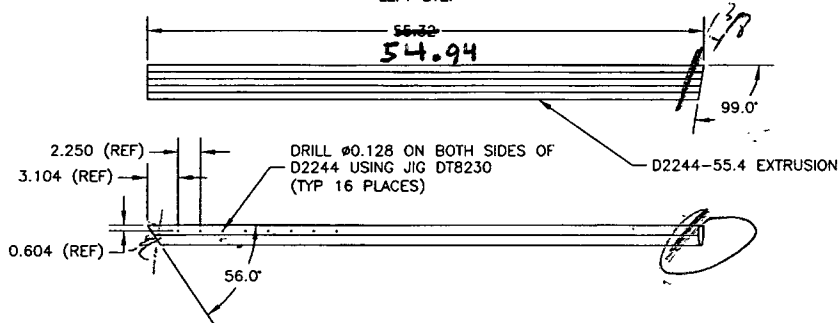
Copyright © 1995 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

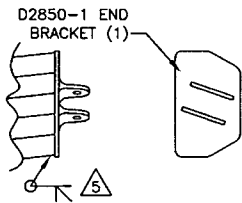
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

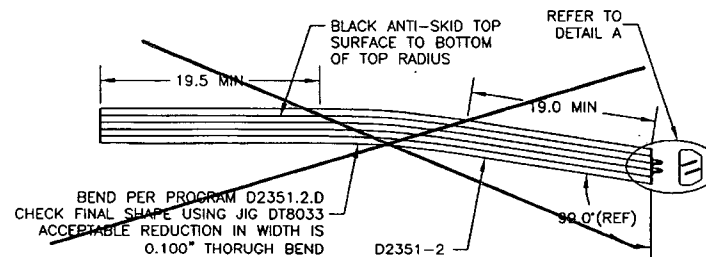
D2582 STEP LEG ASSEMBLY (1)



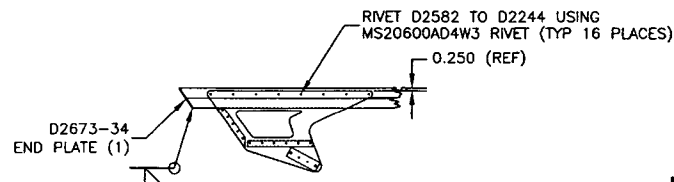
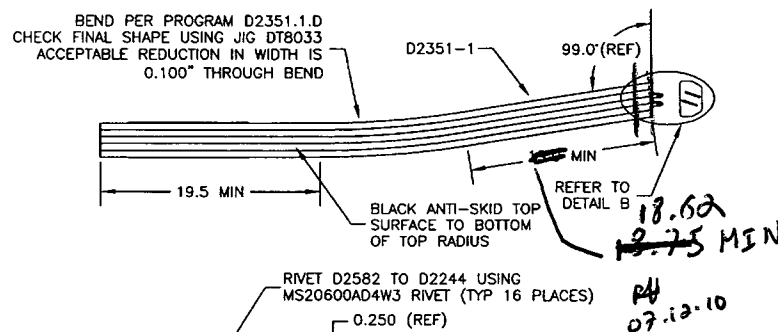
GENERAL NOTES

- 1) WELD PER DART QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) ALL DIMENSIONS ARE IN INCHES
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RELEASED
05.11.28

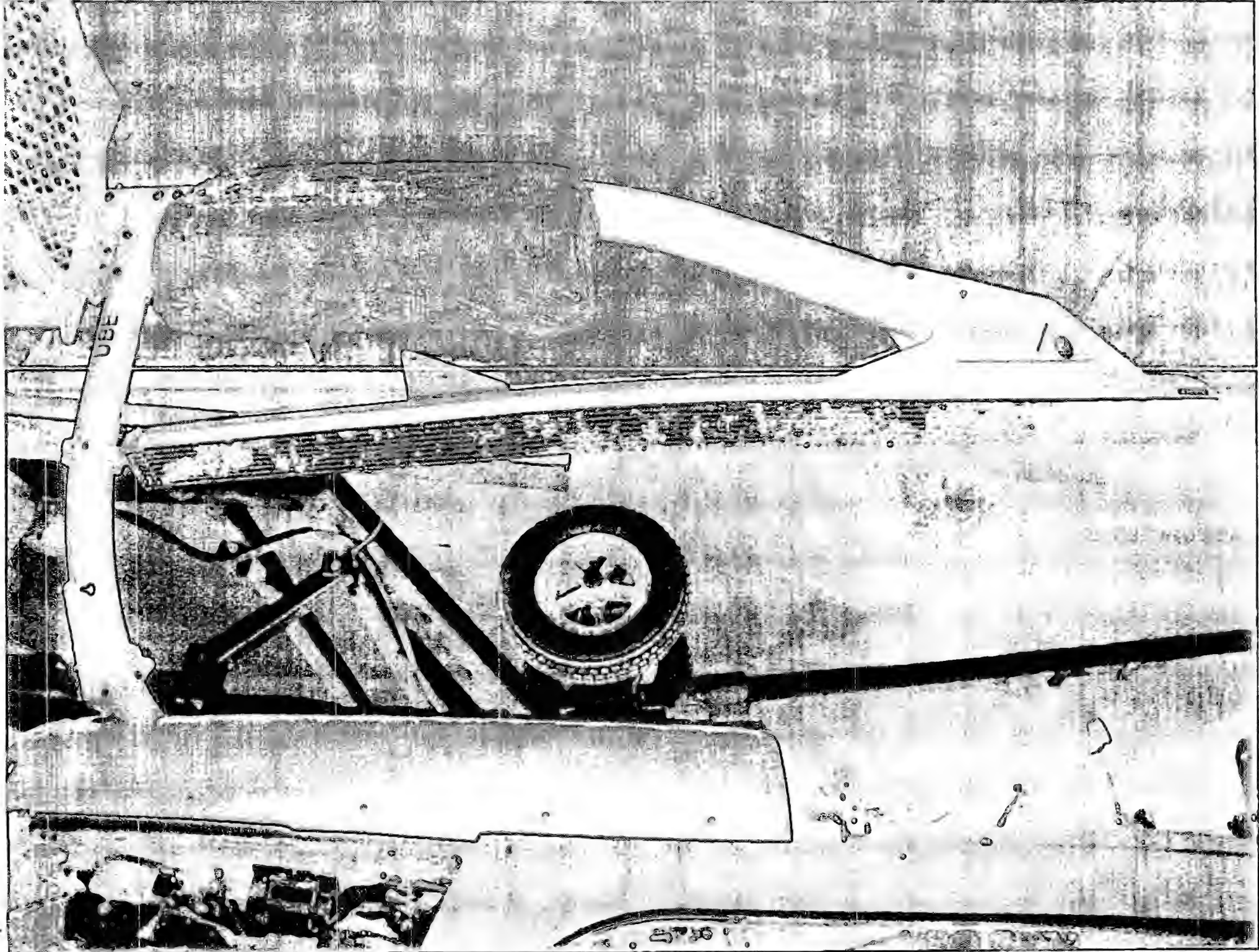
UNDER REVIEW
07.12.10

COPYRIGHT © 1985 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

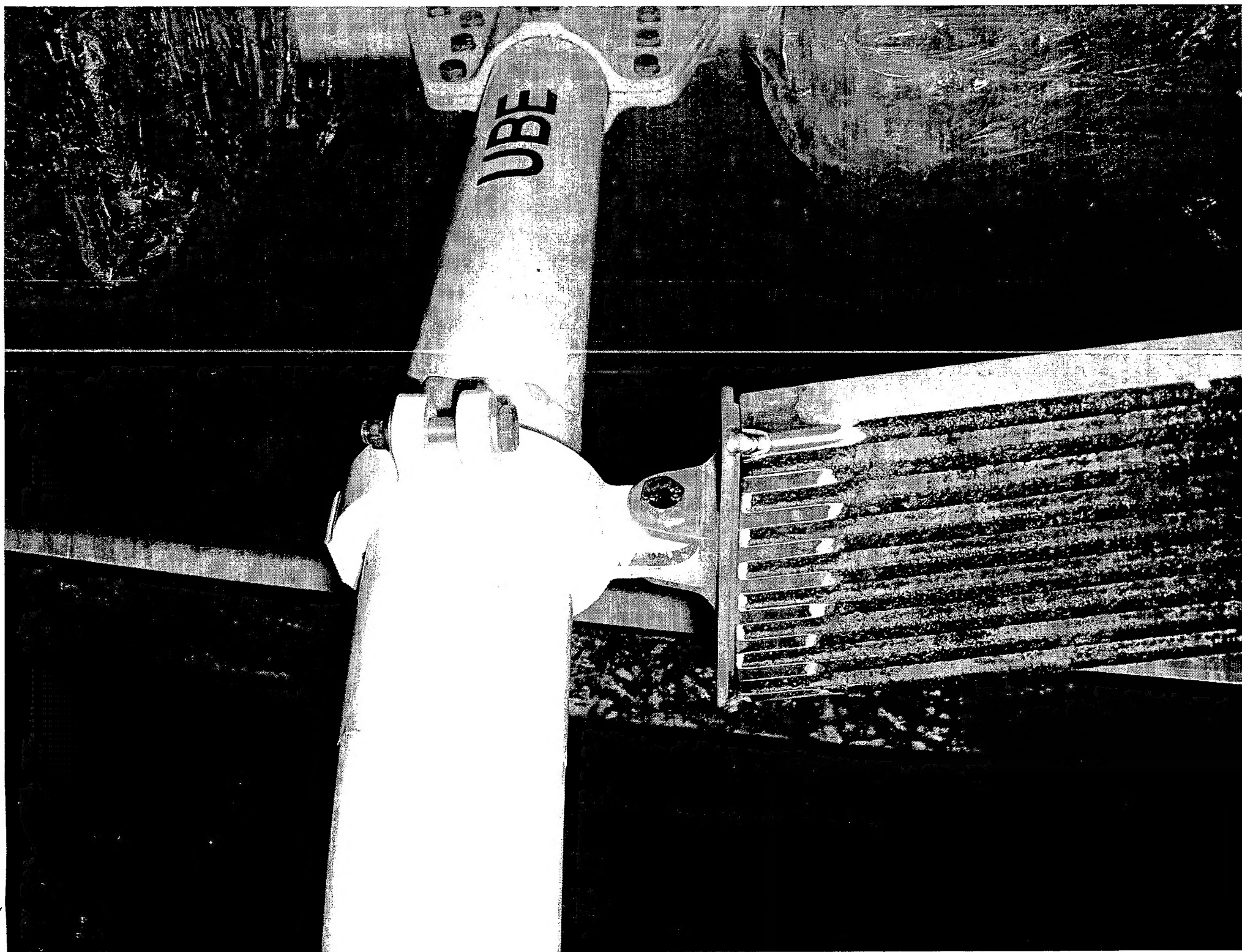
DESIGN	DRAWN BY	DART	DART AEROSPACE LTD.
KE	PH		HAINESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. E
		D2351	SHEET 2 OF 2
DATE	TITLE		SCALE
05.11.14	HIGH FLOAT STEP ASSEMBLY		1:12

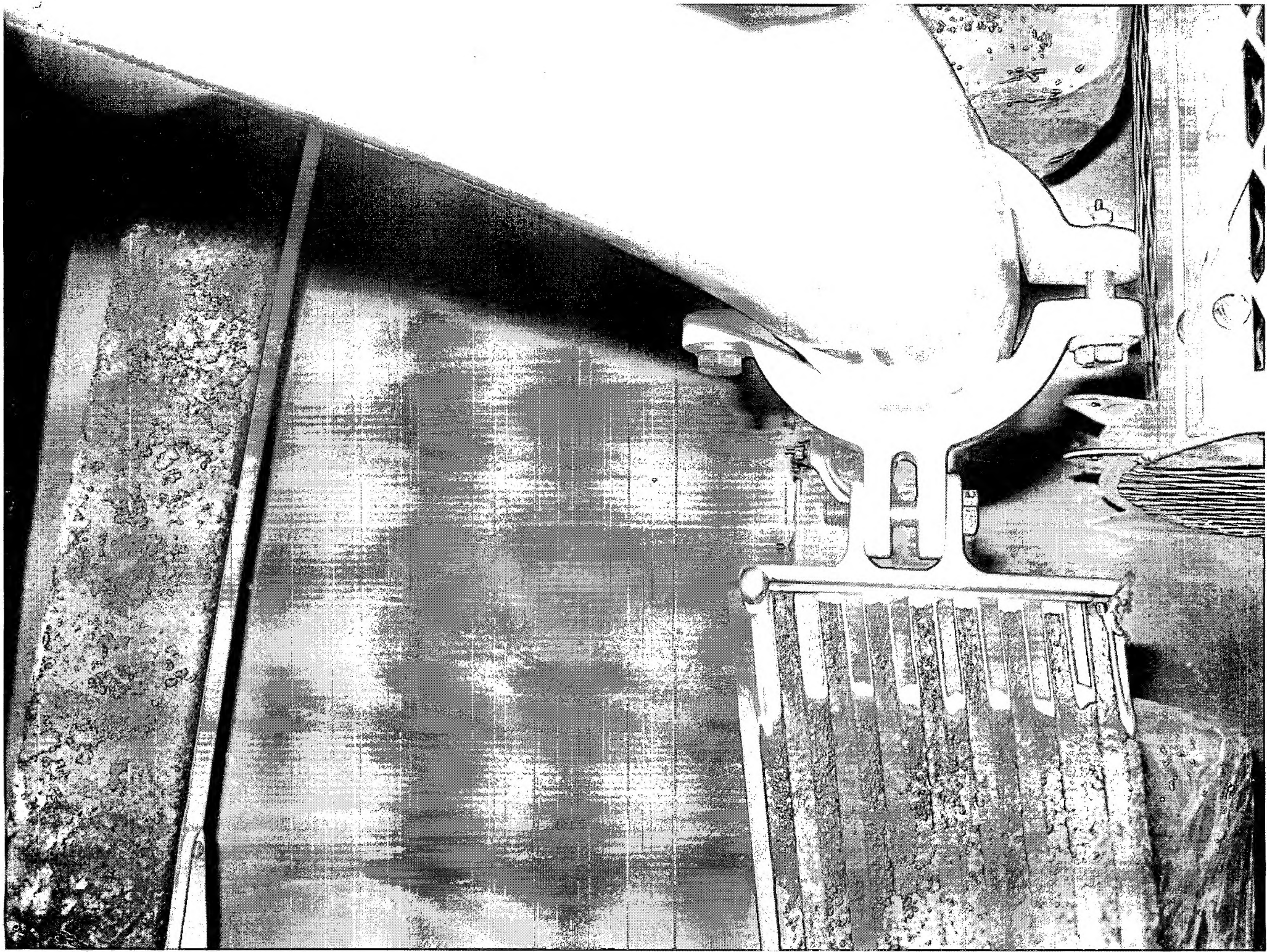
NO. 202338
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY



USE

10





Date: Monday, 12/10/2007 12:05:02 PM
 User: Kim Johnston

Process Sheet

50

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHORT STEP ASSEMBLY
Job Number	: 36238		
Estimate Number	: 11672		
P.O. Number	:	Part Number	: D350591121
This Issue	: 12/10/2007 S.O. No. :	Drawing Number	: D2351 UNDER REVIEW
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : LARGE FAB ASSY	Drawing Revision	: E
Previous Run	: 35863	Material	:
Written By	:	Due Date	: 12/12/2007 Qty: 1 Um: Each
Checked & Approved By	: <u>07.12.10</u>		
Comment	: Est Rev: 02.10.21 Re-format; Incorporated D2351-041 IPP K J/Rf est rev. F 06.02.23 added grinding EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121CHG003

07.12.10 kg

2.0	D2244116	Step Extrusion
-----	----------	----------------



Comment: Qty.: 0.5000 Each(s)/Unit Total : 0.5000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-128 Extrusion

REFERENCE ONLY

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
-----	-------------	------------------------------



Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

4.0	BENDING	BENDING MACHINE
-----	---------	-----------------



Comment: BENDING MACHINE

Bend per Dwg D2351 using Bend Program D23561dD FT011

